

REMARKS**SPECIFICATION**

The amendment filed on January 13, 2006, was objected to under 35 U.S.C. § 132(a) because it was alleged that it introduced new matter into the disclosure. In particular, it appears that the Examiner is objecting to the inclusion of the phrase "without a wire stem" into the specification because it is alleged to be new matter not supported by the original disclosure. Applicants disagree.

Initially Applicants respectfully remind the Examiner that in section 2136.06 of the MPEP, Eighth Edition, Revision 3, published August 2005, it is stated that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter." Applicants submit that, in the subject patent application, support for an interconnect material "without a wire stem" is found both in the drawings and in the specification.

For example, as described in Applicant's previous response, Figures 5 and 6 of the original specification **clearly** shows an interconnect material 54 "without a wire stem." Further, the original specification **clearly describes** the undesirability of wire stems. For example, paragraph [0005] of the original specification **explicitly** states that bond wires (i.e., wire stems) are undesirable because such "interconnection occupies an unacceptably large portion of the carrier substrate." Paragraph [0009] of the original specification refers to prior art packages that include wire bonds (i.e., wire stems) and states that such packages have "undesirable form factor and inherent fragility of the wire-bonds which effects product reliability."

Further, the specification has a detailed description of the interconnect material 54 and the processes for forming and depositing the interconnect material 54. See paragraphs [0040] to [0045] of the original specification. These processes support the inclusion of the phrase "without a wire stem" into the specification. In paragraph [0042] of the subject application, for example, it is stated that "[I]nterconnect material 54 is passed through apertures in the screen and onto the lateral interconnect 50. A reflow process is used to soften or melt the interconnect material 54 to form rounded

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interconnects." Such a process indicates that the interconnect material **does not** include a wire stem since it would be difficult if not impossible to pass the interconnect material through apertures, much less the formation of rounded interconnects if a wire stem was present in the interconnect material.

Paragraph [0043] further states that "[a] reflow process may be used to soften or melt the interconnect material 54 to form spherical interconnects, due to surface tension of the molten interconnect material" which further supports the notion that the interconnect material is "without a wire stem." Further, the last sentence of original paragraph [0046] of the specification stated that "[d]uring a reflow process, the interconnect material 54 melts and forms a unitary electrical interconnection between second die interconnect 21 and the lateral interconnect 50." The combination of the original Figures 5 and 6 and the original specification clearly indicates that the interconnect material 54 is "without a wire stem." For at least these reasons, Applicants respectfully request reconsideration of this objection.

CLAIM REJECTIONS UNDER 35 U.S.C. § 112

Claims 6-9 and 11-12 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner rejected the inclusion of the limitation "without a wire stem," a negative limitation, in independent claim 6 (as well as its dependent claims, claims 7-9 and 11-12) because it is alleged that this negative limitation was not disclosed in the original disclosure and further cites *In re Johnson*, 558 F.2d 1008, 1019, 194 U.S.P.Q. 187, 196 (C.C.P.A. 1977), "any negative limitation or exclusionary proviso must have basis in the original disclosure" as a basis for this rejection. Applicants disagree for at least the following reason. As previously alluded to, the specification was previously amended to include the phrase "without a wire stem." Support for such an amendment is found in original Figures 5 and 6 as well as in the original specification as previously described. For at least this reason, Applicants respectfully request reconsideration of this rejection under 35 U.S.C. § 112, first paragraph.

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Claims 6-9 and 11-12 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. In particular, the Examiner rejected the use of "without a wire stem" in independent claim 6 (as well as its dependent claims, claims 7-9 and 11-12) because it is a negative limitation. That is, the Examiner appears to base her rejection based on her reading of an older case, *In re Schechter*, 205 F.2d 185, 98 U.S.P.Q. 144 (C.C.P.A. 1953). However, Applicants respectfully remind the Examiner that in section 2173.05(i) of the MPEP, it is stated that:

The current view of the courts is that there is nothing inherently ambiguous or uncertain about a negative limitation. So long as the boundaries of the patent protection sought are set forth definitely, albeit negatively, the claim complies with the requirements of 35 U.S.C. 112, second paragraph. Some older cases were critical of negative limitations because they tended to define the invention in terms of what it was not, rather than pointing out the invention.

The MPEP further goes on to cite the holding from the *Schechter* case indicative of these older cases. However, Applicants submit that the holding of a more recent case, *In re Wakefield*, 422 F.2d 897, 164 U.S.P.Q. 636 (C.C.P.A. 1970), is more relevant here. In *In re Wakefield*, "a claim which recited the limitation 'said homopolymer being free from the proteins, soaps, resins, and sugars present in natural Hevea rubber' in order to exclude the characteristics of the prior art product, was considered definite because each recited limitation was definite." See MPEP § 2173.05(i), underline added. Applicants therefore submit that the limitation "without a wire stem" is definite and respectfully request reconsideration of this rejection under 35 U.S.C. § 112, second paragraph.

CLAIM REJECTIONS UNDER 35 U.S.C. § 102

Claims 6-9, 12, and 26-29 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Application No. 2002/00117330 to Eldridge *et al.* ("*Eldridge*"). Applicants request reconsideration of this rejection for at least the following reason.

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As for claim 6, claim 6 was previously amended to include, among other things, "an interconnect material comprising a conductive material without a wire stem, the interconnect material being coupled directly with the redistributed interconnect; and an interconnect of a second microelectronic die substrate electrically and directly coupled to the interconnect material." Underline added. Applicants submit that such a structure is not disclosed in *Eldridge*. That is, Applicants submit that when all of the limitations, including the limitation "without a wire stem," are given their full weight, claim 6 is patentable over *Eldridge*.

Claims 7-9 and 12 each depend upon independent claim 6 incorporating their corresponding limitations. Thus, for at least the above stated reasons, claims 7-9 and 12 are patentable over *Eldridge*.

Claims 26-29 were added in the Applicants' previous response. Although the Examiner does not specifically address how *Eldridge* anticipates these claims, Applicants submit that these claims include features not disclosed in *Eldridge*. For example, independent claims 26 and 28 recite features similar to those of claim 6 except that they do not include the phrase "without a wire stem." Instead, claims 26 and 28 recite the features "an interconnect material consisting an electrically conductive reflowable material" and "an interconnect material consisting an electrically conductive adhesive," respectively. Such features are not taught in *Eldridge*. Applicants therefore submit that claims 26 and 28 are patentable over *Eldridge*. Claims 27 and 29 depend from independent claims 26 and 28, incorporating their features. Thus, for at least the same reason that claims 26 and 28 are patentable, claims 27 and 29 are likewise patentable.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

Claim 11 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Eldridge*. In particular, it appears that the Examiner is rejecting claim 11 based on the fact that claim 11 recites a "product by process" limitation and that since the Examiner rejected claim 6, which claim 11 depends from, that claim 11 is

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likewise unpatentable over *Eldridge*. However and as previously stated, Applicants submit that claim 6 is patentable over *Eldridge*. And because of its dependency to claim 6, claim 11 is likewise patentable over *Eldridge* under 35 U.S.C. § 103(a).

CONCLUSION

In view of the foregoing, Applicants respectfully submit that claims 6-9, 11, 12, and 26-29 are in a condition for allowance. Early issuance of Notice of Allowance is respectfully requested.

If the Examiner has any questions, she is invited to contact the undersigned at 503-796-2099.

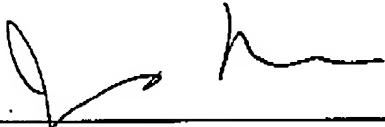
The Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393.

Respectfully submitted,

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Dated: 6/6/06

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